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oxidative gas are disposed in order in the oxidative gas pipe 164. Any gas which oxidizes and stabilizes a reaction by-product can be used as the oxidative gas. Although the O₂ gas is used in this embodiment, another gas, such as O₃ (ozone), a gas containing dry-air O₂ or H₂O (water vapor), can be used as well. The nozzle 162 may be provided in the trap mechanism 132 so as to directly feed the oxidative gas into the trap mechanism 132.

Please replace the paragraph at page 31, lines 15-19, as follows:

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Next, the second exhaust valves 150A, 150B at the near the trap mechanism 132 are closed (S8), and both valves 142 and 144 at the upstream of the trap mechanism 132 are closed, sealing the trap mechanism 132 airtight and isolate it (S9).

Please replace the paragraph at page 34, lines 7-8, as follows:

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Note that the downstream valve 144 may be closed, instead of closing the second exhaust valve 150B.

IN THE CLAIMS

Please cancel Claim 12 without prejudice.

Please amend Claims 8 and 14-17 as shown on the marked-up copy. A clean copy as amended appears below.

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8. (Amended) An impurity-gas removing method of removing an impurity gas contained in an exhaust gas to be discharged from a process apparatus, comprising:
mixing, at a mixing point, a reaction gas to react with said impurity gas, in said exhaust gas at a location upstream of a pump to cause a reaction by-product to condense out of the exhaust gas at a point downstream of the mixing point;
trapping said reaction by-product using a trap mechanism; and
removing the condensed by-product from the trap mechanism.

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13. (Amended) The impurity-gas removing method according to claim 24, wherein when said oxidative gas is made to contact said reaction by-product in said trap mechanism, said process apparatus is evacuated with an inverse diffusion coefficient by an exhaust bypass pipe by the pump provided to bypass said trap mechanism, the inverse diffusion coefficient being set so that the oxidation gas is prevented from being introduced into the process apparatus through the exhaust bypass pipe.

ad 14. (Amended) The impurity-gas removing method according to claim 24, wherein stabilizing of said reaction byproduct sequentially and repeatedly is performed by trapping said oxidative gas at a pressure higher than that needed at a time of evacuating said trap mechanism and then exhausting said trapped oxidative gas plural times.

15. (Amended) The impurity-gas removing method according to claim 24, wherein said reaction by-product is a product produced as a cleaning gas reacts with a by-product of a film deposition gas.

16. (Amended) The impurity-gas removing method according to claim 24, wherein said process gas is one of a titanium-containing gas, tungsten-containing gas, tantalum-containing gas and silicon-containing gas.

17. (Amended) The impurity-gas removing method according to claim 24, wherein said oxidative gas is at least one of an oxygen-containing gas.

Please add the following new claims:

19. (New) The impurity-gas removing method according to claim 8, wherein the trap mechanism is controlled in temperature to condense the reaction by-product.

aa 20. (New) The impurity-gas removing method according to claim 8, wherein said reaction gas is the same as a gas contained the process gas.

21. (New) The impurity-gas removing method according to claim 8, wherein a supply amount of said reaction gas mixed with the impurity gas is at least twice that of the impurity gas.

22. (New) The impurity-gas removing method according to claim 8, wherein said process gas includes TiCl_4 , and said reaction gas includes NH_3 .

23. (New) The impurity-gas removing method according to claim 8, wherein said process gas includes WF_5 , and said reaction gas includes NH_3 .

24. (New) An impurity-gas removing method, comprising the steps of:

forming a reaction by-product from an impurity gas contained in an exhaust gas to be discharged from a process apparatus by a pump, the process apparatus performing film deposition on an object to be processed using a process gas;

trapping the reaction by-product with a trap mechanism provided in an upper stream of the pump;

causing an oxidative gas to contact said reaction by-product trapped with the trap mechanism to oxidize the reaction by-product, thereby stabilizing the reaction by-product; and

removing the stabilized by-product from the trap mechanism.

25. (New) The impurity-gas removing method according to claim 24, wherein the forming includes reacting a reaction gas with the impurity gas to lower a vapor pressure of the impurity gas, thus yielding the reaction by-product by its condensing.

IN THE ABSTRACT

Please replace the Abstract at page 47 to read as follows: